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(56) Entertainment machines.

(57) A coin-operated entertainment machine, particularly a fruit machine, has a vdu screen on which symbols are displayed at a number of separate regions (9, 10, 11).

Player-operable control buttons (4,5,6) are provided for use in replacing the symbol at one region (9 to 11) with a symbol displayed elsewhere on the screen (region 12).

In a preferred embodiment the symbol to be replaced and the new symbol interchange positions in an operation involving simultaneous movement of the symbols across the screen.

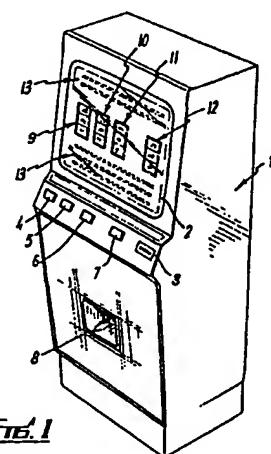


FIG. 1

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ENTERTAINMENT MACHINES

This invention relates to a coin- or token-operated entertainment machine of the kind (hereinafter referred to as the kind described) having a plurality of display regions and which can be operated by a player to produce a display of one or more symbols at each of said regions with the aim of attaining a winning combination thereof.

With known entertainment machines of the kind described 10. which are of the coin-operated fruit machine type the displayed symbols are selected at random and a win indication is produced in the event that the resulting combination thereof is of a predetermined winning nature. Rotatable reels having symbols marked around the peripheries thereof are commonly used to effect such random symbol selection although it is also known to use an electronic visual display unit (vdu) which is operable to produce a display simulating such reels. A vdu system of this kind is described in our published British 15. Patent No. 1,596,363.

With such coin-operated fruit machines it is known to provide player-operable controls such as "hold" and "nudge" buttons which can be used at the beginning or 25. end of a game to influence or modify the selection of

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the displayed symbols thereby to improve the entertainment value of the machine.

An object of the present invention is to provide a

5. further kind of control which can be used to improve the entertainment value of an entertainment machine of the kind described.

According to the invention therefore there is pro-

10. vided an entertainment machine of the kind described wherein the said display regions are defined by regions of a vdu screen characterised in that the machine has a control which is operable to effect replacement of at least one symbol displayed at at least one display
15. region with a symbol displayed on said screen other than at said display region. Preferably, the control is a player-operable control although alternatively an automatic control may be used.

20. With this arrangement the entertainment value of the machine can be improved.

In a preferred embodiment the arrangement is such that operation of the said control effects disappearance of

25. the first said symbol (or alternatively displacement thereof from its respective display region) and the second said symbol is arranged to move across the screen to take up the position previously occupied by the first said symbol. The first said symbol on replacement
30. thereof may re-appear in or move across the screen to the position previously occupied by the second symbol. Movements of the first and second symbols may occur simultaneously.

35. There may be a plurality of symbols at each said display

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region in which case the said control may be operable to effect replacement of one or more such symbols with a corresponding number of symbols previously displayed elsewhere on the screen.

5.

The arrangement may be such that a symbol or symbols can be replaced at only one or alternatively at some or all of the display regions, and there may be a single said player-operable control or alternatively a plurality

10. of controls, for example one for each display region.

Where symbols can be replaced at a plurality of display regions the player may have the option to effect replacement at only one selected display region. Alternatively, the player may have the option to effect replacement

15. at any or all of the said plurality of display regions.

Further, for the or each display region at which symbol replacement can be effected there may be only a single replacement symbol (or set of symbols) or alternatively

20. there may be a plurality of symbols (or sets of symbols) from which one can be selected by the player for replacement purposes.

Said first symbol may be arranged to be replaced with

25. said second symbol taken from one other said display region. Alternatively said first symbol may be arranged to be replaced with said second symbol taken from an auxiliary region not being one of said display regions.

30. The entertainment machine of the invention may be a coin-operated fruit machine as described above. In this case the said replacement symbol or symbols may be selected at random at an auxiliary display region or regions. The arrangement may be such that the said

35. control or controls can be operated at the end of a game

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so that the player may have an opportunity of converting a losing combination into a winning combination or of converting a low value winning combination into a higher value winning combination. Alternatively and in the

5. case where one or more "hold" buttons are provided to hold one or more displayed symbols at the start of a game, the arrangement may be such that the said control or controls can be operated at the start of the game before operation of an associated hold button or buttons
10. thereby to improve the chance of obtaining a winning combination in the following game.

The invention will now be described further by way of example only and with reference to the accompanying

15. drawings in which:-

Fig. 1 is a diagrammatic perspective view of one form of a machine according to the present invention; and

20. Figs. 2 and 3 are diagrammatic representations of display regions of the machine at different stages during displacement thereof.

The machine is a coin-operated vdu fruit machine of the

25. kind described in our published British Patent No. 1,596,363 (and to which reference is made for a more detailed description thereof) and comprises a floor-standing box-structure housing 1 containing a colour video tube the front screen 2 of which is exposed through an opening in a front wall of the housing. A conventional coin mechanism has a slot 3 which is mounted at the front of the housing 1 as also are control switches 4, 5, 6, 7 and a pay-out chute 8. Inside the housing there is an electronic control system which is connected
30. to the coin mechanism to the control switches 4 to 7 to
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the video tube and to other mechanisms and devices such as indicator lamps, game counters, pay-out solenoids and the like.

5. In the manner described in published British Patent No. 1,596,363 the video tube produces at four regions 9 to 12 displays simulating the peripheries of conventional fruit machine reels and at other regions 13 decorative and/or informative displays. Three of the regions 9 to 11 are equally spaced from each other and each provides a respective display of a vertical series of three fruit-containing areas 14, 15, 16 contained within a frame 17, the areas of all such regions 9 to 11 being respectively horizontally aligned with each other. The fourth region 12 is spaced more widely from the other regions 9 to 11 but produces a similar horizontally aligned display of three fruit-containing regions 14 to 16 within a frame 17.
10. to 11
15. fourth region 12
20. In use, after actuation of the machine by insertion of one or more coins or tokens into the slot 3, and after operation of a start switch 7 by a player, the displays at the regions 9 to 12 change in a manner simulating the rotation of reels, such change terminating
25. (after a different period of time for each region) with a fixed display of a series of three randomly selected fruit-containing areas 14 to 16 at each region 9 to 12. At the end of the game, if the horizontally aligned central areas 15 of the three regions 9 to 11 contain a combination of fruit which is of a predetermined winning nature, the player can obtain an appropriate award (which may be a direct pay-out of coins or tokens, an opportunity to have a further game or games, etc.).
30. combination of fruit which is of a predetermined winning nature, the player can obtain an appropriate award (which may be a direct pay-out of coins or tokens, an opportunity to have a further game or games, etc.).
35. On an occasional random basis, at the end of the game

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the player is provided with an opportunity to improve the combination on the winning line with the aim of converting a winning combination into a further winning combination having an award of greater value or of

5. converting a lost game into a winning game. When such opportunity arises, which is signalled by a displayed notification on the screen 2 and/or by actuation of indicator lamps, the player can operate any one of three of the switches 4, 5, 6, which are positioned

10. respectively directly beneath the three regions 9 to 11. On operation of one of these switches 4 to 6 the three fruit-containing areas 14 to 16 of the pertaining region start to move bodily upwardly as indicated in Fig. 2 whilst at the same time the areas 14 to 16 of the fourth

15. region 12 start to move bodily downwardly (the frames 17 opening to permit this). These displaced sets of areas 14 to 16 then interchange positions as shown in Fig. 3 to give a new fruit combination on the winning line.

20.

The three switches 4 to 6 beneath the regions 9 to 11 can also be used as conventional hold buttons i.e. for use at the start of a game (when such facility is made available to the player) to hold the displays against

25. changing during the ensuing game.

With the arrangement described above considerable entertainment value can be derived from the opportunity afforded to the player to improve or modify the fruit combination

30. obtained on the winning line.

It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

35. Thus, for example, the interchange facility can be made

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available on a regular rather than a random basis and can be made available for all regions as desired. Further, alternatively or additionally, the interchange facility may be made available at the start of a game

5. in conjunction with the use of a hold facility. Still further, the symbol or set of symbols used for interchange purposes need not be provided by an auxiliary "reel" (i.e. display 12) but may comprise any other suitable form of fixed or changeable display. Moreover,
10. it will be appreciated that it is also possible to interchange the displays 9 to 11 with each other directly or via the display region 12, if desired.

Still further, the adjustment circuit used to effect

15. interchange of displayed symbols need not be arranged to be actuated solely by player-operable controls (i.e. the buttons 4 to 6) but alternatively or additionally may be arranged to be actuated automatically. For example, on a regular or random basis interchange of symbols
20. from one or more of the main display regions (9, 10, 11) may be initiated at the start or end of a game, such interchange being of a random nature, or of a predetermined nature, or of a determined nature with the deliberate aim of achieving in so far as possible an improved
25. combination (i.e. by converting a losing combination to a winning combination or by converting a winning combination into a higher value winning combination). In the last-mentioned respect attention is directed to our co-pending Application of even date claiming priority
30. from British Application No. 8110547 and which discloses a machine which can be operated by a player at the start of a game, after actuation of a coin or token mechanism of the machine, to initiate performance of first machine operations represented by visual displays of a moving
35. or changing nature at a plurality of display regions on

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the machine, such first operations terminating at random at the end of the game in a combination of fixed visual displays at such regions, and which is arranged to perform further operations resulting in a win indication

5. in the event that said combination of fixed displays at the end of the game is of a predetermined nature, and said machine having a control device which is operable to provide a control facility to cause a fixed display at at least one said display region to change
10. to a different fixed display as selected automatically by the machine with the aim of improving the combination of fixed displays at said display regions.

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Claims:

1. A coin- or token-operated entertainment machine having a plurality of display regions and which can be operated by a player to produce a display of one or
5. more symbols at each of said regions with the aim of attaining a winning combination thereof, said display regions being defined by regions of a vdu screen, characterised in that the machine has a control (4,5,6) which is operable
10. to effect replacement of at least one symbol displayed at at least one display region (9 to 11) with a symbol displayed on said screen (region 12) other than at said display region.
15. 2. A machine according to claim 1, wherein said control is a player-operable control.
3. A machine according to claim 1 or 2, wherein said second symbol is arranged to move across the vdu screen
20. into the said display region to take up the position previously occupied by the first said symbol.
4. A machine according to any one of claims 1 to 3, wherein the first said symbol is arranged to move across
25. the vdu screen out of the said display region to vacate the position thereof to be taken up by the second symbol.
5. A machine according to claim 4, when dependent on claim 3, wherein the movements across the screen of the
30. first and second symbols are arranged to take place simultaneously.
6. A machine according to any one of claims 1 to 5, wherein said first and second symbols are arranged to
35. interchange positions thereof.

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7. A machine according to any one of claims 1 to 6, wherein said first symbol is arranged to be replaced with said second symbol taken from one other said display region.

5.

8. A machine according to any one of claims 1 to 7, wherein said first symbol is arranged to be replaced with said second symbol taken from an auxiliary region not being one of said display regions.

10.

9. A machine according to any one of claims 1 to 8, wherein each said display region contains a plurality of symbols at different areas thereof and operation of said control is arranged to effect replacement of all

15. said symbols together from one said display region with a corresponding set of symbols displayed elsewhere on said screen.

10. A machine according to any one of claims 1 to 9,

20. which is a fruit machine and wherein said symbols are selected at random at said display regions.

11. A machine according to claim 10, wherein displays simulating the rotation of reels are produced at said

25. display regions.

12. A machine according to claim 11, when dependent on claim 7, wherein a display simulating the rotation of a reel is also produced at said auxiliary region.

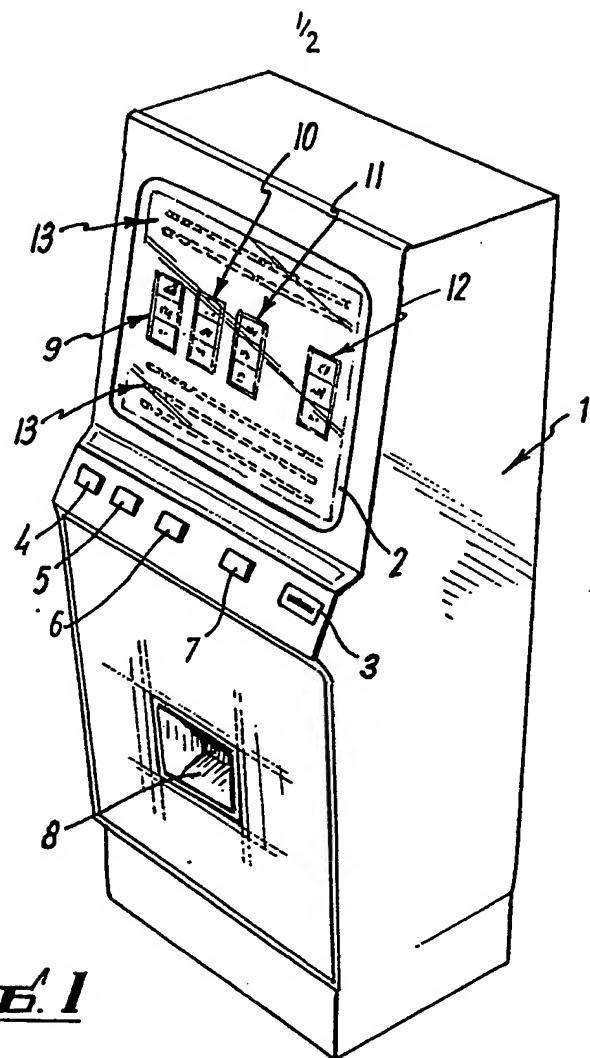


FIG. I

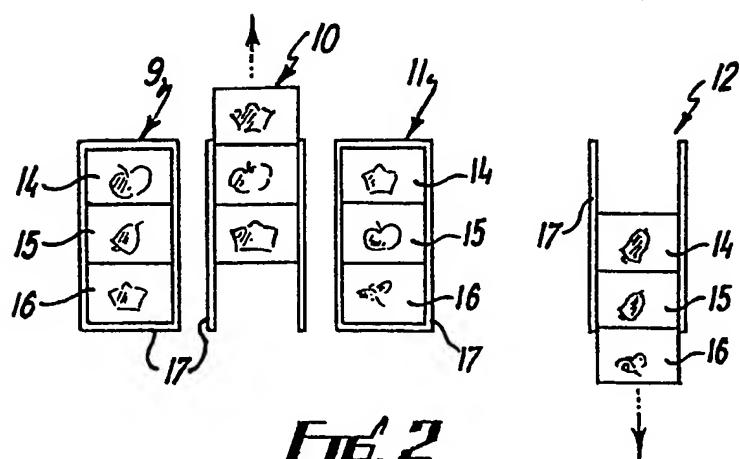
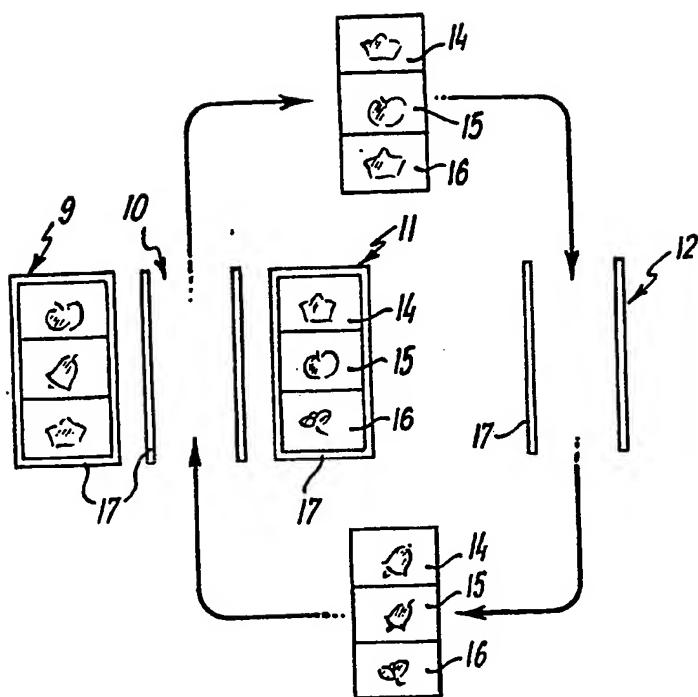


FIG. 2

2<sub>1</sub><sub>2</sub>FIG. 3



EUROPEAN SEARCH REPORT

0060019

Application number

EP 82 30 0468

DOCUMENTS CONSIDERED TO BE RELEVANT		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 5)
Category	Citation of document with indication, where appropriate, of relevant passages		
D, A	EP-A-0 005 930 (BARCREST)  *Abstract; claims; figure 2*  ---	1, 10, 11	G 07 F 17/34
A	DE-A-2 527 724 (BALLY)  *Figures and claims*  ---	1, 10, 11	
A	DE-A-2 329 255 (INTERNATIONAL CYBERNETIC MACHINES) *Claims; pages 6 and 7*  ---	1, 2, 10, 11	
A	GB-A-1 466 765 (BELL-FRUIT)  *Claims and figures*  ---	1, 10, 11	
A	US-A-3 918 716 (H.NONAKA)  *Abstract and figure 1*  ---	1, 10, 11	TECHNICAL FIELDS SEARCHED (Int. Cl. 5)
A	DE-A-2 739 768 (P.EIBA)  *claims and figures*  ---	1, 10, 11	G 07 F 17/34 G 07 F 17/32 A 63 F 9/00
A	DE-A-2 354 215 (A.MUELLER)  *Complete document*  -----	1, 10, 11	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	01-06-1982	DAVID J.Y.H.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone	Y : particularly relevant if combined with another document of the same category		
A : technological background	O : non-written disclosure		
P : intermediate document			

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Mitsunaga et al.

Appl. No.: 10/221,114

Conf. No.:

Filed: January 24, 2003

Title: IMAGE PROCESSING DEVICE

Art Unit: 2623

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Docket No.: 112857-311

Commissioner for Patents

Attn: OIPE Customer Service Center

Fax: 703-746-9195

P.O. Box 1450

Alexandria, VA 22313-1450

**REQUEST FOR CORRECTED FILING RECEIPT**

Sir:

Attached is a marked-up copy of the official filing receipt received from the USPTO in the above-identified patent application for which issuance of a corrected filing receipt is respectfully requested.

There is an error in that the following data is:

incorrectly entered

and/or

] omitted

] Applicant(s)

] Domestic Priority

] Foreign Applications

] Title

] Total Claims and/or Independent Claims

] Attorney Docket No.

] Other -

in that the filing receipt should read as follows:

**“Image Processing Apparatus”**